No.



7700064

THE UNITED SHATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

Mommersteeg International B.V.

Williams, there has been presented to the

Secretary of Agricultanes

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF ACCURACE. YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT TY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PERENNIAL RYEGRASS

'Caravelle!

In Exitmoun Whereot, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of washington this 20th day of November in the year of our Lord one thousand nine hundred and eighty.

Allost:

Commissioner Stant Variety Protection Office

Agricultural Marketing Service

Secretary of Agriculture

GRAIN DIVISION PLANT VARIETY PROTECTION OFFICE NATIONAL AGRICULTURAL LIBRARY BELTSVILLE, MARYLAND 20706

1a. TEMPOHARY DESIGNATION OF VARIETY	16. VARIETY NAM	ΛE	FOR OFFICIAL USE ONLY			
	CARAVELLE		PV NUMBER	7700064		
2. KIND NAME	3. GENUS AND SPE	ECIES NAME	FILING DATE	TIME A.M.		
Perennial ryegrass	Lolium per	renne L.	4-15-77	2:15 EM		
4. FAMILY NAME (BOTANICAL)	5. DATE OF DETE		\$ 250.00	4-15-77		
GRAMINEAE		r 25, 1972	\$ 250.00 \$ 250.00	4-15-77 10-15-80		
6. NAME OF APPLICANT(S)	7. ADDRESS (Street Code)	t and No. of R.F.D. No.		8. TELEPHONE AREA		
MOMMERSTEEG				CODE AND NUMBER		
INTERNATIONAL b.v.	· –	Зо <u>х</u> 1,		The Netherland		
		, The Netherl	Lands	Area code 4108 number 9116		
9. IF THE NAMED APPLICANT IS NOT A PER: ORGANIZATION: (Corporation, partnership, a	(SON, FORM OF association, etc.)	10. IF INCORPORA	ATED, GIVE STATE AND DRPORATION	11. DATE OF INCOR- PORATION 1973		
CORPORATION		THE NETHER		February 26.		
12. Name and mailing address of applica	ant representative			nd receive all papers:		
LAUREL, MARYLAND	20810	a fe litter				
13. CHECK BOX BELOW FOR EACH ATTACH						
13A. Exhibit A, Origin and Breedin		ariety (See Section 5	2 of the Plant Variety Pr	rotection Act.)		
13B. Exhibit B, Novelty Statemen			,			
13C. Exhibit C, Objective Descript 13D. Exhibit D, Additional Descri			Plant Variety Protection	ı Office.)		
14A. Does the applicant(s) specify that seed (See Section 83(a). (If "Yes," answer	r 148 and 14C below	w_{\cdot})	YES A NO			
148. Does the applicant(s) specify that this limited as to number of generations?	_	c. If "Yes," to 14B, I breeder seed?	how many generations o	f production beyond		
	YES NO	FOUNDATION	REGISTERED	CERTIFIED		
15. Does the applicant(s) agree to the publ	lication of his/her (their) name(s) and ad	Idress in the Official Jou	urnal?		
16. The applicant(s) declare(s) that a viable a certificate and will be replenished pe	le sample of basic so eriodically in accord	eed of this variety wi dance with such regul	ill be deposited upon reg lations as may be applica			
The undersigned applicant(s) is (are) variety is distinct, uniform, and stabl tion 42 of the Plant Variety Act.	the owner(s) of the	nis sexually reproduce	ed novel plane weather	1.1.15 () 1		
Applicant(s) is (are) informed that false	æ representation her	rein can jeopardize p	rotection and result in p	enalties.		
April 6, 1977		MOMMERST	TEEG INTERNATIO	ONAL_b.v.		
(UAIE)			ISIGNATURE OF APRLY			
			General Dire	ector.		
(DATE)	Ir.	J.W.Berkelb	General Dire oach van der Sr (SIGNATURE OF APPLIC	prenkel,		

INSTRUCTIONS

ITEM

- Give the date the applicant determined that he had supplied to increase the seed.
- Give (1), the genealogy, including public and commerical varieties, lines, or clones used, and the breeding method. (2), the details of subsequent stages of selection and multiplication. (3), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.
- Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.
- Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C.

 Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.

14A If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)



Addendum II ad 13 B Exhibit B

Genus and Species: Lolium perenne

Variety: Caravelle (Application No 7700064)

Novelty Statement.

The variety Caravelle is most similar to the variety Yorktown but differs from Yorktown by:

- a) a later heading date (4 days later)
- b) a narrower flagleave (.6 mm narrower) 25 9/10/80
- c) a shorter flagleave (3 cm shorter)
- d) a shorter mature plant height (9 cm shorter)

Trial results 1976, 1977 in the Netherlands.

	Caracteristics	Year	Caravelle	Yorktown	LSD 5%
a)	Heading date	1976 1977	May 26 June 4	May 22 May 31	1,86 days 1,89 days
ъ)	Width of the flagleave	1976 1977	3,3 mm 4,0 mm	3,9 mm 4,6 mm	0,31 mm 0,27 mm
c)	Length of the flagleave	1976 1977	5,1 cm 9,0 cm	7,2 cm 12,0 cm	1,33 cm 1,41 cm
a)	Mature plant height	1977	60 cm	69 cm	3,72 cm



13 A Exhibit A, Origin and Breeding History of the Variety

Genus and Species: Lolium perenne

Variety: CARAVELLE.

Orriginal material was collected in France. After observation of the material there was plant- and clone selection, followed by a polycross and a progeny testing. The progenies have also been tested in turf trials. Eventually the variety Caravelle was formed and based on 13 clones.

Breeders seed is produced by cloning the 13 basic clones and planting them in a polycross formation in an isolated field. The next generations are:

Prebasic Seed (Toundation Seed)

Basic Seed (= Registered Seed)

Certified Seed.

The prebasic and basic seed generations have been tested and no objectionable off-type plants or variants have been observed.



Addendum ad 13B Exhibit B.

Genus and Species: Lolium perenne.

Variety: CARAVELLE.

- 1. The mature plant height is 11 cm shorter than the mature plant height of Manhattan.
- 2. The length of the flagleaf is 3.2 cm shorter than the length of flagleaf of Manhattan.
- 3. The width of the flagleaf is 0,5 cm narrower than the width of flagleaf of Manhattan.
- 4. The length of the spike is 4 cm shorter than the length of spike of Manhattan.
- 5. The colour of the leaves is darker than the colour of the leaves of Pennfine and Manhattan.



Addendum ad 13A Exhibit A.

Genus and Species: Lolium perenne.

Variety: ÇARAVELLE.

The variety CARAVELLE has obtained Plant Breeders Right in the Netherlands and in the Federal Republic of Germany. In both countries the official people have declared the variety to be stable.

In the Netherlands the officials of the Variety Research Institute as well as the officials of the NAK (Certifying Agency) compared different generations and they dit not find a change with generations. We did not expect them to find changes, because in our own breeding work we did not find any change between generations.

The method to maintain Caravelle has been used and is still used with all our new varieties of cross-fertilizing grasses. All our varieties are synthetics, based on a certain number of basic plants. We keep the basic plants in a nursery (clones) and we use them to plant a breeder's seed foold, if we need breeder's seed.

Next generations are prebasic, basic and Certified seed. We do not use more than 4 generations.

In general this method of maintaining a variety has proven to act very well. With the variety Caravelle we did not have any difficulties until now.

VARIETY NAME OR TEMPORARY DESIGNATION

FORM GR-470-36 (9-76)

NAME OF APPLICANT(S)

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION HYATTSVILLE, MARYLAND 20782 OBJECTIVE DESCRIPTION OF CULTIVARS

RYEGRASS (<u>Lolium spp.</u>)

MOMMERSTEEG INTERNATIONAL b.v.	Caravelle.		
ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)	FOR OFFICIAL USE ONLY		
P.O. Box 1, VLIJMEN, the Netherlands	7700064		
Place the appropriate number that describes the varietal character of this variety in the boxes below number if either 99 or less or 9 or less. Descriptions of characters should represent those that are talea should be for SPACED PLANTS. Give additional description for all characteristics that cannot be trinent comparative trial and evaluation data.	unical for the variety. Danger may be given also. Measured		
1. SPECIES:			
1 = L. MULTIFLORUM (annual or Italian: includes Westerwoldicum) 2 = L. PERENN 4 = HYBRID (of species) 5 = OTHER (Sp	IE (perennial) 3 = L. RIGIDUM (includes Wimmera) ecify)		
2. PLOIDY:			
1 1 = DIPLOID 2 = TETRAPLOID 3 = OTHER (Sp	ecify)		
3. DURATION:			
3 1 = ANNUAL OR BIENNIAL 2 = SHORT LIVED PERENNIAL (3-4 years)	3 = PERENNIAL (more than 4 years)		
1 = GULF 2 = WIMMERA 62 STANDARD CULTIVARS 1 = GULF 2 = WIMMERA 62 3 = LINN	4 = PELO		
5 = NORLEA 6 = ABERYSTWYTH S-23 7 = MANHATT. 4. MATURITY (50% HEADED) Use standards from above for comparison:			
5 1 = VERY EARLY 3 = EARLY O 4 DAYS EARLIER THAN	7 STANDARD CULTIVAR		
9 = VERY LATE 1 3 DAYS LATER THAN	STANDARD CULTIVAR		
5. MATURE PLANT HEIGHT (Use standard cultivars from above) :			
O 4 6 CM. HIGH O 1 1 CM. SHORTER THAN	STANDARD CULTIVAR		
CM. TALLER THAN STANDARD CULTIVAR			
6. PERCENT WINTER DAMAGE (estimated as percent of the area appearing dead). Use s	standard cultivars from above for comparison:		
PERCENT DAMAGE OF APPLICATION CULTIVAR			
PERCENT DAMAGE OF STANDARD CULTIVAR			
7. TURF DENSITY Use standard cultivars from above:			
TILLERS PER 100 SQ. CM,	_		
LESS TILLERS PER 100 SQ. CM. THAN STANDARD CULTIV	'AR		
MORE TILLERS PER 100 SQ. CM. THAN STANDARD CULTIV	'AR		
8. FLAG LEAF (at full growth) Use standard cultivars from above:			
0 7. 4 CM. LENGTH (from ligule to tip) 0 3. 5 MM. WIDT	H (at widest point)		
0 3 2 CM, SHORTER THAN	AR FLAG LEAF AT 3 = RECURVED BOOT STAGE: 5 = HORIZONTAL 7 = SEMI-ERECT		
CM. LONGER THAN STANDARD CULTIV	9 = FRECT		
0. 5 0 MM. NARROWER THAN	'AR		
MM. WIDER THAN STANDARD CULTIV	8		



13 B Exhibit B, Novelty Statement.

Genus and Species: Lolium perenne

Variety : CARAVELLE.

The novelty of Caravelle is based on the fact, that the variety has a number of characteristics clearly different from all other varieties known with us.

- 1) The colour is darker
- 2) The mature plant height is shorter
- 3) The length of the flag leaf is shorter
- 4) The width of the flag leaf is narrower
- 5) The length of the spike is shorter